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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,083

07/13/2006

Richard Patzak

40598

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116 7590 11/13/2008  
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EXAMINER

VAUGHN, MEGANNE

ART UNIT

PAPER NUMBER

2831

MAIL DATE

DELIVERY MODE

11/13/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,083	<b>Applicant(s)</b> PATZAK ET AL.	
	<b>Examiner</b> MEGANN E. VAUGHN	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,13 and 14 is/are rejected.
- 7) ☒ Claim(s) 3 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/13/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Mansfield (US 4115730).

Regarding claims 1 and 5, Mansfield discloses an imaging method for nuclear magnetic resonance, comprising applying a constant static magnetic field upon a sample (column 18, lines 26-28), applying an additional magnetic field superimposed on the static magnetic field (column 18, lines 29-31), the additional field having, in at least one grating surface within the sample volume, different field strength values at each point of the grating surface (column 18, lines 35-45), exciting the sample with a high-frequency electromagnetic alternating field (column 18, lines 31-34), and reading and evaluating electromagnetic radiation emitted from the excited sample (column 18, lines 45-46).

Regarding claim 2, Mansfield discloses that a one-dimensional Fourier transformation is used (column 19, line 8- column 20, line 2).

Regarding claim 4, Mansfield discloses that several areas of the sample are measured at the same time (column 19, lines 1-7).

Regarding claim 6, Mansfield discloses that the additional field changes its sign over time for generating the echo (see figure 3).

Regarding claims 13 and 14, Mansfield discloses in figure 9, a device for executing the method according claim 1 (see figure 9).

***Allowable Subject Matter***

3. Claims 3 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 8-12 and 15 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Claim 3 is allowable over the prior art of record because the prior art of record does not teach or disclose... wherein the additional field is described by surface-filling or space-filling curves, there being a biunique correlation between field strength values and point of the grating for these curves, in combination with the remaining limitations of the claims.

Claim 7 is allowable over the prior art of record because the prior art of record does not teach or disclose... that the additional field is described by a Hilbert curve, in combination with the remaining limitations of the claims.

Claims 8-12 and 15 are allowable over the prior art of record because the prior art of record does not teach or disclose an imaging method for nuclear magnetic

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resonance comprising reading the signal along a fractal space-filling trajectory during a data acquisition phase, in combination with the remaining limitations of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGANN E. VAUGHN whose telephone number is (571)272-8927. The examiner can normally be reached on 8 am- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MEV  
Patent Examiner Art Unit 2831  
11/10/2008

/Diego Gutierrez/  
Supervisory Patent Examiner,  
Art Unit 2831